



#4

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Applicants : Thomas R. Szabo et al.  
Application No. : 10/020,867  
Filed : December 14, 2001  
For : COBALT-PORPHYRIN COMPLEXES AND USE THEREOF AS  
AN ANTI-OBESITY AGENT

Docket No. : 660088.415  
Date : March 5, 2002

Commissioner for Patents  
Washington, DC 20231

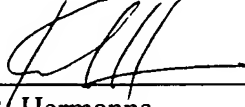
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Please acknowledge receipt of this Information Disclosure Statement and kindly make the cited references of record in the above-identified application.

Respectfully submitted,  
Seed Intellectual Property Law Group PLLC

  
\_\_\_\_\_  
Karl R. Hermanns  
Registration No. 33,507

KRH:sfl

Enclosures:

Postcard  
PTO/SB/21  
Form PTO-1449  
Cited References (6)

701 Fifth Avenue, Suite 6300  
Seattle, Washington 98104-7092  
Phone: (206) 622-4900  
Fax: (206) 682-6031

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PTO/SB/21 (08-00)  
Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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<b>TRANSMITTAL FORM</b>  (To be used for all correspondence after initial filing)	Application Number	10/020,867
	Filing Date	December 14, 2001
	First Named Inventor	Thomas R. Szabo
	Group Art Unit	Not yet assigned
	Examiner Name	Not yet assigned
	Attorney Docket No.	660088.415


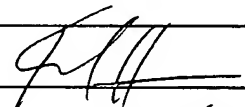
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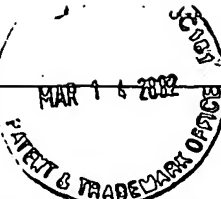
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<b>SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT</b>		
Individual Name	Karl R. Hermanns, 33,507	 <b>00500</b> PATENT TRADEMARK OFFICE
Signature		
Date	3/5/02	

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FORM PTO-1449  
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MAR 1 4 2002

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.  
660088.415APPLICATION NO.  
10/020,867

## INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

APPLICANTS

Thomas R. Szabo et al.

FILING DATE

December 14, 2001

GROUP ART UNIT

Not yet assigned

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						

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## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
	AG					
	AH					
	AI					

## OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

RR	AJ	Choi et al., "Weight loss in rats treated with intracerebroventricular cobalt protoporphyrin is not specific to the neuropeptide Y system," <i>Brain Research</i> 729(2):223-227, August 12, 1996.
RR	AK	Galbraith and Kappas, "Cobalt-protoporphyrin suppresses expression of genetic obesity in homozygous (fa/fa) Zucker rats," <i>Pharmacology</i> 41(5):292-298, 1990.
RR	AL	Galbraith and Kappas, "Regulation of food intake and body weight by cobalt porphyrins in animals," <i>P.N.A.S. USA</i> 86(19):7653-7657, October 1989.
RR	AM	Sies, "Ebselen, a selenoorganic compound as glutathione peroxidase mimic," <i>Free Radical Biology Medicine</i> 14(3):313-323, March 1993.
RR	AN	Tomaro et al., "Heme oxygenase induction by CoCl <sub>2</sub> , Co-protoporphyrin IX, phenylhydrazine, and diamide: evidence for oxidative stress involvement," <i>Arch. Biochem. Biophys.</i> 286(2):610-617, May 1, 1991.
RR	AO	Turner et al., "Lack of NPY-induced feeding in cobalt protoporphyrin-treated rats is a postreceptor defect," <i>Physiology Behavior</i> 56(5):1009-1014, November 1994.

EXAMINER

DATE CONSIDERED

\* EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s).

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PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.  
660088.415APPLICATION NO.  
10/020,867

## INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

## APPLICANTS

Tomas R. Szabo et al.

## FILING DATE

December 14, 2001

## GROUP ART UNIT

1614

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
RR	AA	4,948,792	08/14/90	Kappas et al.	514	185	
RR	AB	5,084,475	01/28/92	Kappas et al.	514	410	
RP	AC	5,149,697	09/22/92	Johnson et al.	514	185	
RP	AD	5,192,757	03/09/93	Johnson et al.	514	185	
RR	AE	5,929,064	07/27/99	Goel et al.	514	185	
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
	AL					
	AM					
	AN					
	AO					
	AP					

## OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

RR	AQ	Markush Chemical Structure Search Results for Porphyrin Type Compound with isopropyl group, Chemical Abstract Service MARPAT Database, February 24, 2003.
RR	AR	Markush Chemical Structure Search Results for Porphyrin Type Compound with benzyl and phenyl groups, Chemical Abstract Service MARPAT Database, February 24, 2003.
	AS	

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R. R. Rayner

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8-22-03

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(REV. 7-80)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.  
660088.415APPLICATION NO.  
10/020,867SUPPLEMENTAL  
INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

APPLICANTS

Thomas R. Szabo et al.

FILING DATE

December 14, 2001

GROUP ART UNIT

1614

AUG 29 2002

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AA						
AB						

## FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
				YES	NO
RR	AC	WO 97/05152	02/13/97	WIPO	
	AD				
	AE				

## OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

RR	AF	Amersi et al., "Upregulation of heme oxygenase-1 protects genetically fat Zucker rat livers from ischemia/reperfusion injury," <i>Journal of Clinical Investigation</i> 104(11):1631-1639, December 1999.
RR	AG	Dickinson and Chien, "Model System of Cobalt-Cytochrome c," <i>Inorganic Chemistry</i> 15(5):1111-1114, 1976.
RR	AH	Dickinson and Symons, "Electron Spin Resonance Monitoring of Ligand Ejection Reactions Following Solid-State Reduction of Cobalt Globin and Cobalt Protoporphyrin Complexes," <i>Journal of Physical Chemistry</i> 86:917-921, 1982.
RR	AI	Hoffman et al., "Quantitation of a novel metalloporphyrin drug in plasma by atomic absorption spectroscopy," <i>Journal of Pharmaceutical Biomedical Analysis</i> 19(3-4):319-326, March 1999.
RR	AJ	Kumar et al., "NADP+-specific isocitrate dehydrogenase interaction with metalloporphyrin in rat brain," <i>Clinical Chemistry and Enzymology Communications</i> 7(5-6):349-357, 1997.
RR	AK	Sakurai et al., "Model of the Coordination Site for Cobalt-Substituted Cyochrome P450 <sub>cam</sub> ," <i>Journal of Inorganic Biochemistry</i> 26:55-62, 1986.
RR	AL	Takayanagi et al., "The Ligation of Phosphine Derivatives and the Oxygen-binding Properties of the Cobalt Mesoporphyrin IX Dimethyl Ester in Toluene," <i>Bulletin of the Chemical Society of Japan</i> 48(10):2618-2622, 1975.
RR	AM	Wicker Jr. et al., "The Relationship Between Enthalpy Changes and Oxygenation Constants for Cobalt and Iron Porphyrins," <i>Inorganica Chimica Acta</i> 78:181-189, 1983.
RR	AN	Yamamoto et al., "Oxygen Binding of Cobalt(II) Proto-, Deutero- and Meso- Porphyrin IX Dimethyl Ester Complexes in Organic Solvents," <i>Bioinorganic Chemistry</i> 7:189-201, 1977.

EXAMINER

R. K. Karpman

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